



GLOSSARY OF TERMS

**Natural Gas Purchasing Workshop
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Technology Forum and the American Public Transportation Association**

The following are terms related to natural gas purchasing, divided into four categories: Energy Trading, Pricing, Electricity, and Natural Gas. For more information on natural gas, as it relates to natural gas vehicles and infrastructure, visit the following Web sites:

U.S. DOE's Natural Gas Vehicle Technology Forum

www.ott.doe.gov/ngvtf

U.S. DOE's Clean Cities Program

www.cities.doe.gov

Clean Cities Technical Assistance Project (Tiger Teams)

www.cities.doe.gov/tiger.html

Energy Trading Terms

Backwardation	Also called inverted market, market situation in which futures prices are progressively lower in the distant delivery months. Indicates supply shortages. Opposite of contango.
Close	The period at the end of the trading session, designated by the exchange, during which all transactions are considered complete.
Contango	Market situation in which prices in succeeding delivery months are progressively higher than in the nearest delivery month.
Direct Access	The ability of a retail customer to purchase commodity electricity directly from the wholesale market rather than through a local distribution utility. Having market prices is called market access.
Expiration	When a New York Mercantile Exchange (NYMEX) contract quits trading. For gas, this is three business days before the first of the month of delivery. For example, on Jan 29, 2003, the February 2003 contract stops trading (expires).
Firm Gas	Gas sold on continuous, non-interruptible terms.
Firm Power	Power or power-producing capacity intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.
Forward Curve	Energy supply prices that can be purchased today, such as the NYMEX market for gas. Forward curves can be used for marking positions to market. Forward curves are not price forecasts and are not necessarily useful for planning purposes. A forecast is a prediction of future prices based on analysis, whereas the forward curve is a snapshot of today's market.
Fundamental Analysis	The study of basic, underlying factors that will affect the supply and demand of the commodity being traded in futures contracts.
Futures Market	A trade center for quoting prices on contracts for the delivery of a specified quantity of a commodity at a specified time and place in the future.

Good 'Til Canceled (GTC) Order	An order that is valid at any time during trading hours until executed or canceled or until the futures contract expires. Also called open order.
Henry Hub	A pipeline hub on the Louisiana Gulf Coast. It is the delivery point for the natural gas futures contract on the NYMEX.
Interruptible Gas	Gas sold to customers with a provision that permits curtailment or cessation of service at the discretion of a member of the supply chain under certain circumstances, as specified in the service contract.
Load	The amount of specific energy delivered or required at any specific point or points on a system. The requirement originates at the energy-consuming equipment of the consumers.
Notional Quotation	An offer to sell gas based on the price at the time the offer is made. Because prices constantly change, a notional amount is subject to change and is therefore an example of an offer rather than a firm offer.
NYMEX Gas Contract, Specifications	<ul style="list-style-type: none"> • Trading unit = 10,000 decatherms (dt) or million British thermal units (MMBtu) • Trading hours = Open outcry 9:30 am until 2:30 pm weekdays. Internet-based ACCESS 3:15 pm until 9:00 am the next day, Mondays through Thursdays. On Sunday ACCESS trading begins at 7:00 pm. • Trading months = 72 consecutive months commencing with the next calendar month. • Prices = Dollars and cents to 1/10th of a cent (e.g., \$2.645 per dt). • Last day of trading = Three business days prior to the first calendar day of the delivery month. • Delivery location = Sabine Pipe Line Co.'s Henry Hub in Louisiana. Seller is responsible for delivery through Hub; buyer, from Hub. Hub fee is paid by seller. • Delivery period = Uniformly over the course of the month. • Quality specifications: Pipeline specifications in effect at the time of delivery.
Overbought	A technical opinion that the current market price is high in relation to a price-based indicator such as a moving average.
Oversold	A technical opinion that the current market price is low in relation to a price-based indicator such as a moving average.
"Round Tripping" or "Wash" Trading	The practice whereby total trading volumes are inflated and a market made to appear more liquid as two companies buy and sell the same volume of energy at the same price to each other. This practice was more common in electricity markets because gas trading already had sufficient volumes to be a healthy, properly functioning market.
Settlement	The daily price established by the exchange to even up positions, clear all trades, and settle all accounts between members for each contract month. This is the weighted average price during the last thirty minutes of trading
Short Covering	The purchasing of gas contracts to offset currently held short positions. The market participants are buying gas contracts to satisfy the contracts previously sold. A high daily volume of trades that results in a reduction of the total open interest is evidence short covering is occurring.
Technical Analysis	An approach to forecasting commodity prices that examines patterns of price change, rates of change, and changes in volume of trading and open interest, without regard to underlying fundamental market factors.

Pricing Terms

Basis	The difference between the cash or spot price of a commodity and the price of the futures contract for the same commodity. For gas, basis reflects the locational difference between the Henry Hub and a delivery point. The delivery point may be a point on a pipeline or a city gate location.
Bundled vs. Unbundled Rates	A bundled rate has a single price for the commodity. Unbundling means the various costs are broken out and shown separately. Unbundling is necessary when a gas user buys his or her own gas and only pays the utility for distribution services.
Burnertip Price	Estimated all-in cost of gas to end-user.
Hedging	Taking a position in the futures market as a temporary substitute for a cash transaction that will occur later.
Index Price	The published result of a price survey conducted by an index maker. Commonly used indexes in natural gas are <i>Inside FERC</i> , <i>Natural Gas Intelligence</i> , and <i>Gas Daily</i> . The index maker surveys active traders during the last few trading days of the month and finds the range and the weighted average price for certain geographic trading points. Indexes are widely used in the gas contracts. An index is a historical price, whereas prices on the NYMEX are for future delivery.
Market-Based Pricing	Prices of electric power or other forms of energy determined in an open market system of supply and demand under which prices are set solely by agreement as to what buyers will pay and sellers will accept. Such prices could recover less or more than full costs, depending upon what the buyers and sellers see as their relevant opportunities and risks.
Market Clearing Price	The price at which supply equals demand for future energy delivery.
NYMEX Price	The commodity price of natural gas. NYMEX is short for New York Mercantile Exchange, where natural gas is traded along with other commodities. Like other commodities, natural gas prices may change quickly with large swings. It is also sometimes referred to as the Henry Hub price because one can take physical delivery of gas at the Henry Hub in Louisiana, where many interstate pipelines connect with each other. Most of the time, however, physical delivery is arranged at other locations on a specific pipeline.
Spot price	The price for a one-time open market transaction for immediate delivery of a specific quantity of product at a specific location where the commodity is purchased "on the spot" at current market rates.
Strike Price	The price, agreed to by the parties, at which the underlying commodity or futures contract will move from seller to buyer.
Tariff, Rate, Rider	The terms tariff and rate are used interchangeably as the definition of the approved charges of a utility. A rider is an adder to a rate. The fuel adjustment rider is the most common. However, utilities can have a variety of riders that collect a single expense.

Electricity Terms

Cooling Degree-Days	A measure of how warm a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the base temperature (65 degrees) from the average of the day's high and low temperatures, with negative values set equal to zero. Each day's cooling degree-days are summed to create a cooling degree-day measure for a specified reference period. Cooling degree-days are used in energy analysis as an indicator of air conditioning energy requirements or use.
Customer Choice	The right of customers to purchase energy from a supplier other than their traditional supplier or from more than one seller in the retail market.
Day-Ahead and Hour-Ahead Markets	Forward markets in which electricity quantities and market clearing prices are calculated individually for each hour of the day on the basis of participant bids for energy sales and purchases.
Electricity Demand	The peak hourly rate at which energy is delivered to loads and scheduling points by generation, transmission, and distribution facilities.
Electricity Measurements	<ul style="list-style-type: none">• Watt: The electrical unit of power. The rate of energy transfer equivalent to 1 ampere flowing under a potential of 1 volt at unity power factor. Equal to 3413 Btus.• Kilowatt (kW): One thousand watts. This refers to capacity.• Kilowatt-hour (kWh): One thousand watt-hours. This is a quantity of energy.• Megawatt (MW): One million watts, one thousand kilowatts.• Megawatt-hour (MWh): One million watt-hours, one thousand kilowatt-hours.
Generator	A machine that converts mechanical energy into electrical energy.
Non-Firm Power	Power or power-producing capacity supplied or available under a commitment having limited or no assured availability.
Standby Service	Support service that is available, as needed, to supplement a consumer, a utility system, or another utility if a schedule or an agreement authorizes the transaction. The service is not regularly used.
Stranded costs	Costs incurred by a utility that may not be recoverable under market-based retail competition. Examples include undepreciated generating facilities, deferred costs, and long-term contract costs.
Transformer	An electrical device for changing the voltage of alternating current.
Transmission	The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points at which it is transformed for delivery to consumers, or is delivered to other electric systems. Transmission is considered to end when the energy is transformed for distribution to the consumer.

Natural Gas Terms

Balancing	The delivery of gas requires that all parties work together so that gas going into the interstate and local systems matches gas being used. Various parties in different jurisdictions balance physical supply and demand. When buying sales service from the utility, it is not a concern. Marketer-supplied gas must be balanced via adjusting the amount going into the system to match what is being used, net of any storage. In lieu of balancing, "cash out" or the buying or selling of imbalances is done by the utility.
City Gate	A point or measuring station at which a gas distribution company receives gas from a pipeline company or transmission system
Design Day	A 24-hour period of demand used for planning gas capacity requirements.
Distribution Rate	The transportation charge the local distribution company charges to distribute gas from its city gate to the end-user. This reflects the charge of distributing the gas from the city gate to the end-user but not the cost of the gas itself.
Gas Measurements	<ul style="list-style-type: none">• Cubic foot (cf), natural gas: The amount of natural gas contained at standard temperature and pressure (60 degrees Fahrenheit and 14.73 pounds standard per square inch) in a cube whose edges are one foot long.• Mcf: One thousand cubic feet.• MMcf: One million cubic feet.• Bcf: One billion cubic feet.• Tcf: One trillion cubic feet.• Therm: A unit of heating value equivalent to 100,000 British thermal units (Btus).• MMBtu: A thermal unit of energy equal to 1,000,000 Btus, i.e., the equivalent of 1,000 cubic feet of gas having a heating content of 1,000 Btus per cubic foot, as provided by contract measurement terms. Also dekatherm.
Gas Supplier, Marketer, and Broker	A gas supplier is any party that provides the physical commodity; this can be a producer or a utility as well as a marketer. Marketers take title to the gas commodity and resell it, bundled or unbundled. Typically, marketers have collected for various delivery-associated costs; their profit margin is usually included in interstate transportation service charges. A broker does not take title to the gas but acts as a go-between to arrange deals for sellers and buyers. Either party may pay the broker for his or her services.
Heating Degree-Days	A measure of how cold a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the average of the day's high and low temperatures from the base temperature (65 degrees), with negative values set equal to zero. Each day's heating degree-days are summed to create a heating degree-day measure for a specified reference period. Heating degree-days are used in energy analysis as an indicator of space heating energy requirements or use.
Interstate Transportation Costs (Interstate Basis)	Various companies throughout the United States operate interstate natural gas pipelines. Transcontinental Gas Pipe Line (Transco), Southern Natural (Sonat), Tennessee Gas Pipeline, East Tennessee Natural Gas, and Texas Gas Transmission are some of the interstate pipelines that serve the Southeast. These pipelines are the means by which gas is transported from gas producers to local distribution companies or, in the case of some very large industrials, directly to end-users. Interstate pipeline companies do not own or charge for the gas but only for the transportation of the gas through their pipeline. The charge of transportation is referred to as "transportation costs" or "estimated interstate basis." This cost is composed of demand or reservation fees, pipeline commodity charges, fuel shrinkage for compressors pumping gas to market, costs to get gas from the Henry Hub to pipelines pooling points, and other charges.

Load Factor (LF)	The relation of the peak day to the annual use, express as a %. $LF = \text{Annual use therms} / (\text{max day therms} \times 365)$. Load factor indicates how consistent a gas user's fuel consumption is over a year. In general, higher load factor customers are more attractive to gas suppliers because their use is more constant and predictable. For example, a load factor of 100% indicates a customer who uses exactly the same amount of gas every month all year long. Transit bus fleets are typically very high load factor customers (90% or higher) compared with commercial buildings using gas mainly for space heating, which is unpredictable and very weather dependent (usually less than 20% load factor).
Local Distribution Company (LDC)	Within the gas business, the final distributing utility is called the "LDC" even when the entity is not a company.
Wellhead (Gas Supply)	Major oil and gas companies along with smaller independent oil and gas companies explore for natural gas. The wellhead is the equipment placed on top of each well to control flow and pressure. Each of the thousands of wells is commonly referred to as a wellhead. Wellhead price might also be referred to as supply price, commodity price, index price, NYMEX price, or gathering point price.